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10/581,570	06/02/2006	Hans H. Liao	8127-66576-05	3622

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EXAMINER	
GEBREYESUS, KAGNEW H	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,570	LIAO ET AL.	
	Examiner	Art Unit	
	KAGNEW H. GEBREYESUS	1656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/6/08*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) *42-65* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 June 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/2/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's election of Group I comprising claims 1-41 with traverse dated August 06, 2008 is acknowledged. Furthermore Applicants elect the species of beta-alanine/pyruvate amino-transferase of SEQ ID NO: 19 and the alanine 2, 3-aminomutase of SEQ ID NO: 25.

Applicants traverse the restriction between group I and II on the grounds that the search for group I will result in the search for the nucleic acids of group II and thus will not pose undue burden.

Applicant's argument has been carefully considered but was not found persuasive for the following reason. The polynucleotides in group II can be used as a hybridization probes, thus can be patentably distinct from the transformed cells used for production of 3-HP in the presence of beta-alanine. Claims 42-65 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to non-elected groups, there being no allowable or linking claims. The invention of group I comprising claims 1-41 and beta-alanine/pyruvate aminotransferase of SEQ ID NO: 19 and the 2, 3-aminomutase of SEQ ID NO 25 are present for examination. The requirement for restriction is made final.

Priority

Priority for this application which is a 371 of PCT/US04/40827 filed on December 06, 2004 and claims the benefit of U.S. Provisional Application No. 60/527,357, filed on December 4, 2003 is acknowledged.

Information Disclosure Statement

The information disclosure statement filed on June 05, 2007 has been considered.

Oath/Declaration

The oath or declaration submitted on June 02, 2006 has been reviewed and is in compliance with 37 CFR 1.56.

Objection to Specification

In paragraphs [007] and [0170] of the specification, deposits of cells were made with the American Type Culture Collection (Manassas, Va.) on Dec. 6, 2004. However the deposit accession number is left blank.

Furthermore, paragraphs [0039], [0108], [0109], [0110] and [0111] in the specification recite GenBank accession numbers, however, Genbank sequences could change over time for various reasons including correcting sequence errors. Applicants must use SEQ ID NO: to identify these protein and DNA sequences.

In last line of paragraph [0169], the specification recites: "…The cloned mmsB cDNA sequence is shown in SEQ ID NO: 27, and the corresponding amino acid sequence in SEQ ID NO: 24." SEQ ID NO: 24 should read SEQ ID NO: 28.

Claim Objections

Claims 3, 13-15 objected to because of the following informalities: These claims encompass non-elected subject matter. The non-elected subject matters are SEQ ID NO: 17 in claim 3, SEQ ID NO: 21 and 22 in claims 13-15. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Factors to be considered in making the determination as to whether one skilled in the art would recognize that the applicant was in possession of the claimed invention as a whole at the time of filing include: a. Actual reduction to practice; b. Disclosure of drawings or structural chemical formulas; c. Sufficient relevant identifying characteristics such as i. Complete structure, ii. Partial structure, iii. Physical and/or chemical properties or iv. Functional characteristics when coupled with a known or disclosed correlation between function and structure; d. Method of making the claimed invention; e. Level of skill and knowledge in the art and f. Predictability in the art. While all of these factors are considered, a sufficient number for a *prima facie* case are discussed below.

These claims are directed to a genus of cells from any source including animal, plant and microorganism from any origin (claims 1-15, 20-34, 36-41) or any prokaryotic cell (claims 16, 35) or any Lactobacillus, Lactococcus, Bacillus or any E. coli cells (claim 17) or any yeast, plant

or fungus (claim 18) or any plant (claim 19) transformed with one or more nucleic acids encoding polypeptides with beta-alanine/pyruvate aminotransferase, 3-hydroxypropionic acid dehydrogenase, 2,3 aminomutase, lipase or any esterase, aldehydes dehydrogenase and alcohol dehydrogenase activities described by their name/function wherein said transformed cells produce 3-hydroxypropionic acid (3-HP) or derivatives thereof. Claims 2-4, 8-10, 13-15 are drawn to a genus of cells transformed with one or more nucleic acids encoding the beta-alanine/pyruvate aminotransferase of SEQ ID NO: 19 or a sequence with 90% identity, the 3-hydroxypropionic acid dehydrogenase of SEQ ID NO: 27 or a sequence comprising 90% identity, or with the 2,3 aminomutase of SEQ ID NO: 21 or a sequence with 90% identity.

However, the specification teaches *E. coli* BW25113 .DELTA.ldhA::cam cells (cell with a deleted Lactate dehydrogenase gene) transformed with plasmid pPRO-PaBAPAT that express the beta-alanine/pyruvate aminotransferase from *Pseudomonas aeroginosa* (SEQ ID NO: 19) where said cells produce 3-HP.

Furthermore the specification in paragraph [0163] teaches *E. coli* BW25113 .DELTA.ldhA::cam cells transformed with plasmid pPRO-PpBAPAT comprising the beta-alanine/pyruvate aminotransferase from *Pseudomonas putida* (SEQ ID NO: 17), under the same conditions as those carrying pPRO-PaBAPAT above and shows that these cells also produced 3-HP and derivatives thereof. In paragraph [0148], the specification teaches that Lactate dehydrogenase catalyzes the formation of lactic acid. Deletion of this gene in E. coli results in elimination of lactic acid formation, hence is advantageous for the detection of the formation of 3-HP because of the similarity in structure and chromatographic behavior of lactic acid and 3-

HP. Thus *E. coli* BW25113 .DELTA.ldhA::cam strains, which has an insertion of a chloramphenicol resistance marker gene into the ldhA locus, was used as described above.

However the specification does not teach transformed cells from any origin animal, plant or any microorganism comprising one or more enzyme activities selected from a beta-alanine/pyruvate aminotransferase, any 3-hydroxypropionic acid dehydrogenase, any 2,3 aminomutase, any lipase or any esterase, and/or any aldehydes dehydrogenase and alcohol dehydrogenase having any structure (claims 1, 5-8, 11-13, 16-41) where said cells can produce detectable 3-hydroxypropionic acid or derivatives thereof.

The specification does not teach the structure of a representative number of cell types or polynucleotides encoding proteins with the above enzyme activities or any particular common structural feature for each of said proteins where said common feature can be used to envisage the structure of the genus of polynucleotides to be transformed in any cell to produce 3-HP and derivatives thereof.

In addition, claims 2, 4, 8 and 13 encompass any cell comprising any protein with 90% identity to the beta-alanine/pyruvate aminotransferase of SEQ ID NO: 18/19 (claim 2 , 4), or any sequence with 90% identity to 3-hydroxypropionic acid dehydrogenase of SEQ ID NO: 27/28 (claim 8) or with, any protein with 90% identity to 2,3 aminomutase of SEQ ID NO: 25/26 (claim 13). However the specification does not provide an example of such a variant or where the 10% variation in any of these enzymes may be while retaining enzymatic activity.

Claims 5, 6, 7 recite that the cells comprise a dehydrogenase activity capable of converting malonate semialdehyde to 3-HP. Claims 11 and 12 recite cells further comprising alanine 2,3-aminomutase activity. However dehydrogenases other than SEQ ID NO: 28 and 2,3-

aminomutase other than SEQ ID NO: 25 with different specificities are also broadly encompassed. However the specification does not teach transformed cells comprising a representative number of nucleic acids that encode proteins comprising these activities which can be expressed in any cell in view of producing 3-HP.

Claim 17 and 18 are limited to transformed Lactobacillus, Lactococcus, Bacillus, or Escherichia cell (claim 17) and yeast cell, plant cell, or fungal cells (claim 18). However with the exception of the *E. coli* BW25113 .DELTA.ldhA::cam, strain transformed with the *Pseudomonas aeroginosa* beta-alanine/pyruvate aminotransferase of SEQ ID NO: 18/19, the *Pseudomonas aeroginosa* 3-hydroxypropionic acid dehydrogenase of SEQ ID NO: 27/28 and the mutant *Bacillus subtilis* lysine 2,3-aminomutase of SEQ ID NO: 21 the specification does not provide description for any other modified cell suitable for the production of 3-HP or the derivatives claimed in claim 24.

Thus one skilled artisan would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus of cells including animal, plant and microbial cells transformed with one or more genes encoding a genus of beta-alanine/pyruvate aminotransferases, 3-hydroxypropionic acid dehydrogenases, 2,3 aminomutases, lipases or any esterases, aldehydes dehydrogenases and alcohol dehydrogenases or proteins comprising these activities, where said cells produce 3-HP or derivatives thereof. Thus the Applicant was not in possession of the claimed genus at the time the instant Application was filed.

Claims 1-41 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *E. coli* cells (BW25113 .DELTA.ldhA::cam cells that lack the Lactate dehydrogenase gene with a vector transformed with the *Pseudomonas aeroginosa*

alanine/pyruvate aminotransferase (SEQ ID NO: 19) and the 3-hydroxypropionate dehydrogenase (mmsB gene) of SEQ ID NO: 27 to produce 3-HP or while it is enabling for *E. coli* cells (BW25113 .DELTA.ldhA::cam cells that lack the Lactate dehydrogenase gene) transformed with a vector comprising the *Pseudomonas aeroginosa* alanine/pyruvate aminotransferase (SEQ ID NO: 19), the 3-hydroxypropionate dehydrogenase (mmsB gene SEQ ID NO: 27) and a mutant *Bacillus subtilis* lysine 2,3-aminomutase (SEQ ID NO: 21) to produce 3-HP, does not reasonably provide enablement for any other cell type from any source other than the specific strain recited above to produce a 3-hydroxypropionic acid (3-HP) or derivatives thereof.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The scope of the claims are not commensurate with the enablement provided by the disclosure with regards to the extremely large number of cell types and nucleic acids that encode the various enzymes broadly encompassed in the claims.

The factors to be considered in determining whether undue experimentation is required are summarized In re Wands 858 F.2d 731, 8 USPQ2nd 1400 (Fed. Cir.1988).The factors include: (1) the breadth of the claims, (2) the nature of the invention, (3) the state of the prior art, (4) the predictability or unpredictability of the art, (5) the relative skill of those in the art, (6) the amount or direction or guidance presented, (7) the presence or absence of working examples, and (8) the quantity of experimentation necessary.

N.B. MPEP 2164.04 states, "[w]hile the analysis and conclusion of a lack of enablement are based on the factors discussed in MPEP § 2164.01(a) and the evidence as a whole, it is not necessary to discuss each factor in the written enablement rejection" and that "[t]he language should focus on those factors, reasons, and evidence that lead the examiner to conclude that the specification fails to teach how to make and use the claimed invention without undue experimentation, or that the scope of any enablement provided to one skilled in the art is not commensurate with the scope of protection sought by the claims." Accordingly, the Factors most relevant to the instant rejection are addressed in detail below.

1-2 .Breadth of the claims and the nature of the invention.

The specification only discloses two examples where a specific mutant *E. coli* strain with a deleted lactate dehydrogenase **(thus does not produce lactate)** is transformed with a vector comprising the alanine/pyruvate aminotransferase (SEQ ID NO: 19) and a 3-hydroxypropionic acid dehydrogenase (SEQ ID NO: 26) genes or with a vector comprising the alanine/pyruvate aminotransferase gene of SEQ ID NO: 19, the 3-hydroxypropionic acid dehydrogenase gene of SEQ ID NO: 26 and the a 2,3 aminomutase genes of SEQ ID NO: 21 to produce 3-HP. However in regards to the transformed cells and nucleic acids that encode the above enzymes, the broadest interpretation of the claim that applies encompasses any cell or any unmodified Lactobacillus or Lactococcus or *E. coli* cell transformed with any nucleic acid encoding **or having the activity of** one or more enzyme activities selected from a beta-alanine/pyruvate aminotransferase, a 3-hydroxypropionic acid dehydrogenase, a 2,3 aminomutase, a lipase or any esterase, aldehydes dehydrogenase and alcohol dehydrogenase capable of producing 3-hydroxypropionic acid (3-

HP) or derivatives thereof. However the specification does not provide enablement for the broad scope any transformed cells that express any other set of genes to produce 3-HP.

3-4. The state of prior art and the level of predictability in the art.

In regards to transformed cells that can be used to produce 3-HP, the prior art provides no evidence for use of any unmodified cell including any Lactobacilli, Lactococci or *E. coli* cells and specific pathway genes for the production of 3-HP. Furthermore the prior art does not teach use of any other cell comprising animal, plant or microbial cell as a platform for the production of 3-HP. One skill in the art would not be able to readily anticipate producing 3-HP in a cell comprising lactate dehydrogenase because as indicated in Applicants specification paragraph [0148], deletion of this gene, and hence elimination of lactic acid formation, is advantageous for the detection of the formation of 3-HP because of the similarity in structure and chromatographic behavior of lactic acid and 3-HP. Thus using any microbial cell comprising a functional lactate dehydrogenase in concert with the specified enzymes would be unpredictable.

5. The relative skill in the art.

The relative skill in the art as it relates to the method of the invention is high because factors such as interfering metabolic pathways such as those that utilize lactate dehydrogenase, suitable promoters, codon optimization need to be addressed. The skilled artisan would require undue amount of experimentation to manipulate the above recited parameters in a cell.

6-7. The amount of guidance present and the existence of working examples.

As stated above the specification does not provide enabling disclosure or guidance or working examples for any other transformed cell other than BW25113 .DELTA.ldhA::cam cells (that lack the Lactate dehydrogenase gene) which were transformed with a vector comprising

the *Pseudomonas aeroginosa* alanine/pyruvate aminotransferase (SEQ ID NO: 19), the 3-hydroxypropionate dehydrogenase (mmsB gene SEQ ID NO: 27) or BW25113 .DELTA.ldhA::cam cells transformed with a vector comprising the *Pseudomonas aeroginosa* alanine/pyruvate aminotransferase (SEQ ID NO: 19), the 3-hydroxypropionate dehydrogenase (mmsB gene SEQ ID NO: 27) and a mutant *Bacillus subtilis* lysine 2,3-aminomutase (SEQ ID NO: 21) that produce 3-HP or derivatives thereof.

Furthermore the specification does disclose all possible interfering metabolic pathways, and how these pathways can be manipulated in all possible cells including in any animal, plant or microbial cells, suitable promoters to use, codon optimization for specific cell types. Thus the skilled artisan would require performing undue amount of experimentation to decipher all the above parameters in view of producing a cell that produces a 3-HP or derivatives.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 5-7, 11-41 are rejected under 35 U.S.C. 102(e) as being anticipated by claims 18, 19, 26-35 of U.S. Patent No. 7,309,597 B2 (Liao et al).

The applied reference has a common inventors and Assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131. Claim 1, 5-7, 11-41 of the instant application are obvious over claims 18, 19, 29-35 in 7,309,597 B2 because these claims are drawn to cells that produce 3-HP where said cells comprise enzymes that convert beta-alanine to malonate semialdehyde (thus characterized as having alanine/pyruvate aminotransferase activity) and enzymes that convert malonate semialdehyde (3-HP dehydrogenase) to 3-HP. The various types of cells encompassed in claims 17-19, and 35 in the instant application are preferred embodiments recited in column 4, line 56-65 of US Patent No. 7,309,597 B2. Claims 1, 5, 6, 7, 11-41 of the instant Application recite enzyme activities without structure. Furthermore claims 11-15 encompass 2,3-aminomutases that show at least 90% identity to the 2,3-aminomutase of SEQ ID NO: 25 thus are anticipated by 18, 19, 26-31 of US Patent No. 7,309,597 B2 which encompass a 2,3-aminomutase of SEQ ID NO: 30 shows 100% identity to SEQ ID NO: 25 in the instant application. The cells that produce 1,3-propanediol produced in claim 28 in the instant application are encompassed in preferred embodiment in column, line 49-55 of US Patent No

7,309,597 B2. The cells comprising nucleic acids encoding the lipase or esterase and the esters claimed in 20-24, 29-32 are preferred embodiments in column 24 lines 35-39 of US Patent No 7,309,597 B2.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 5-7, 11-41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 18, 19, 26-35 of U.S. Patent No. 7,309,597 B2 (Liao et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the transformed cells in claims 1, 5, 6, 7, 11-41 of the instant Application are encompassed in the cells of claims 18, 19, 26-31 of US Patent No. 7,309,597 B2. Claim 1, 5-7, 11-41 of the instant application are anticipated because these claims are drawn to cells that produce 3-HP where said cells comprise enzymes that convert beta-alanine to malonate semialdehyde (thus have alanine/pyruvate aminotransferase described by function with no

structure and 3-HP dehydrogenase that convert malonate semialdehyde to 3-HP. The various types of cells encompassed in claims 17-19, and 35 in the instant application are preferred embodiments recited in column 4, line 56-65 of US Patent No. 7,309,597 B2. Claims 1, 5, 6, 7, 11-41 of the instant Application recite enzymes/activities without structure except for the 2, 3-aminomutase of SEQ ID NO: 25 in claims 14 and 15. Claims 11-15 encompass 2, 3-aminomutases that show at least 90% identity to the 2,3-aminomutase of SEQ ID NO: 25 thus are anticipated by 18, 19, 26-35 of US Patent No. 7,309,597 B2 which encompasses a 2,3-aminomutase comprising SEQ ID NO: 30 that shows 100% identity to SEQ ID NO: 25 in the instant application. The nucleic acids encoding the lipase or esterase and the esters, encompassed in the cells claimed in 20-24, 29-32, are preferred embodiments in column 24 lines 35-39 of US Patent No 7,309,597 B2. The cells that produce 1, 3-propanediol produced in claim 28 in the instant application are encompassed in preferred embodiment in column 4, line 49-55 of US Patent No 7,309,597 B2. The cells comprising nucleic acids encoding the lipase or esterase and the esters claimed in 20-24, 29-32 are preferred embodiments in column 24 lines 35-39 of US Patent No 7,309,597 B2.

Claims 1, 5-7, 11-41 directed to an invention not patentably distinct from claims 18, 19, 26-35 of commonly assigned of US Patent No. 7,309,597 B2 . Specifically, claims 1, 5-7, 11-41 of the instant application are anticipated because these claims are drawn to cells that produce 3-HP where said cells comprise enzymes that convert beta-alanine to malonate semialdehyde (thus have alanine/pyruvate aminotransferase activity) and 3-HP dehydrogenase that convert malonate semialdehyde to 3-HP. The various types of cells encompassed in claims 17-19, and

35 in the instant application are preferred embodiments recited in column 4, line 56-65 of US Patent No. 7,309,597 B2.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned US Patent No. 7,309,597 B2, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

Conclusion: No claims are allowed.

Other relevant prior art references:

US 7,186,541 (Gokarn et al). Although Gokarn et al teach microorganisms transformed with various genes to produce 3-HP and derivatives thereof, the instant Application requires the expression of an exogenous beta-alanine/pyruvate aminotransferase (in all the claims) and require 2, 3, aminomutase (in claims 11-15, 22, 27, 31, 34-35, 40-41). US 7,186,541 (Gokarn et al) does not teach the use of an exogenous beta-alanine/pyruvate aminotransferase thus does not anticipate claims 1-41 in the instant Application

Beta-alanine as an Ethylene Precursor. Investigation Towards Preparation and Properties, of a Soluble Enzyme System from a Subcellular Particulate Function of Bean Cotyledons.Stinton et al. Plant Physilogy (1969) 44,1217-1226.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAGNEW H. GEBREYESUS whose telephone number is (571)272-2937. The examiner can normally be reached on 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathleen Kerr Bragdon can be reached on 571-272-0931. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kagnew H Gebreyesus/
Examiner, Art Unit 1656,
10/11/08.

/Andrew D Kosar/
Primary Examiner, Art Unit 1654